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| 10/690,197 | 10/21/2003 | Brian L. Guthrie | 0-03-099.02 | 3675 |

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| ART UNIT | PAPER NUMBER |
|---|---|
| 3754 | |

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/690,197 | GUTHRIE, BRIAN L. | |
| | Examiner | Art Unit | |
| | Eric Keasel | 3754 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *23-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/21/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because of the use of legal phraseology (i.e. comprising). Correction is required. See MPEP § 608.01(b).

3. The specification is objected to for the use of English units in the specification. In order to minimize the necessity in the future for converting dimensions given in the English system of measurements to the metric system of measurements when using printed patents as research and prior art search documents, all patent applicants should use the metric (S.I.) units followed by the equivalent English units when describing their inventions in the specification of patent applications (see MPEP 608.01).

### *Claim Objections*

4. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 42 has been renumbered 41.

### *Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 33-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 33 recites "a wedged shaped rotor valve" in line 6 and also recites "a wedge shaped rotor valve" in line 15, with a slightly different recitation describing the rotor valve. It is vague and indefinite as to whether the second recitation to the rotor valve is intended to be further define the first wedge shaped rotor valve or if it is intended to refer to another wedge shaped rotor valve.

### *Double Patenting*

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 23-41 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8, 1, 9, 11-15, 11, 17, 16, and 10 respectively of U.S. Patent No. 6,745,996. Although the conflicting claims are not identical, they are not patentably distinct from each other because, the claims of '996 anticipate the claims of the present application.

### *Claim Rejections - 35 USC § 103*

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 23, 25, 26, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (US Patent Number 5,035,016) in view of Boyen (US Patent Number 3,373,771).

Mori et al. disclose an air mattress with a blower (1), a rotor valve assembly (5) comprising an air intake (5b), a first air outlet (5c), a second air outlet (5d), and a circular chamber (see Fig. 3). The rotary valve is rotatable within the chamber and can block the first air outlet, the second air outlet, neither, or both. The gearmotor (E) controls the rotation of the rotor valve. A microprocessor (CPU) controls the gearmotor. Mori et al. fail to disclose a wedge-shaped rotary valve rotatably contained within a circular chamber of a housing that is capable of being positioned not to block the first air outlet and not to block the second air outlet. Boyen discloses a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the wedge-shaped rotary valve of Bowen with the alternating pressure valve system of Mori et al. in order to enable the plate to be aligned in close proximity for closing the ports as taught by Boyen (see column 1, lines 10-18).

11. Claims 23-25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al. (US Patent Number 5,235,713) in view of Boyen.

Guthrie et al. disclose an alternating pressure valve system for an alternating pressure mattress with pressure sensors and a microprocessor. Guthrie et al. fail to disclose the valve as being a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. Boyen discloses a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was

made to have used the wedge-shaped rotary valve of Bowen with the alternating pressure valve system of Guthrie et al. in order to enable the plate to be aligned in close proximity for closing the ports as taught by Boyen (see column 1, lines 10-18).

12. Claims 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Boyen as applied to claim 23 above, and further in view of Kopfstein et al. (US Patent Number 5,685,036).

The modified Mori fails to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be an obvious variation). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Mori in order to prevent the formation of pressure sores as taught by Kopfstein et al.

13. Claims 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al. in view of Boyen as applied to claim 23 above, and further in view of Kopfstein et al.

The modified Guthrie fail to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be within the scope of the invention). It would have been obvious to one having ordinary skill in the art at the time

the invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Guthrie in order to prevent the formation of pressure sores as taught by Kopfstein et al.

14. Claims 33-37, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Boyen, Guthrie et al. and Kopfstein et al.

Mori et al. disclose an air mattress with a blower (1), a rotor valve assembly (5) comprising an air intake (5b), a first air outlet (5c), a second air outlet (5d), and a circular chamber (see Fig. 3). The rotary valve is rotatable within the chamber and can block the first air outlet, the second air outlet, neither, or both. The gearmotor (E) controls the rotation of the rotor valve. A microprocessor (CPU) controls the gearmotor. Mori et al. fail to disclose a wedge-shaped rotary valve rotatably contained within a circular chamber of a housing that is capable of being positioned not to block the first air outlet and not to block the second air outlet. Boyen discloses a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the wedge-shaped rotary valve of Bowen with the alternating pressure valve system of Guthrie et al. in order to enable the plate to be aligned in close proximity for closing the ports as taught by Boyen (see column 1, lines 10-18).

The modified Mori fails to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be within the scope

of the invention). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Mori in order to prevent the formation of pressure sores as taught by Kopfstein et al.

The modified Mori fails to disclose the pressure sensors. Guthrie et al. disclose pressure sensors in a similar alternating pressure valve system for an alternating pressure mattress. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the pressure sensors of Guthrie et al. with the alternating pressure valve system for an alternating pressure mattress of the modified Mori in order to sense the pressure in the various compartments as taught by Guthrie et al.

15. Claims 27 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Boyen, Guthrie et al. and Kopfstein et al. as applied to claims 26 and 33 above, and further in view of Hunt et al. (US Patent Number 4,935,968).

The modified Mori fails to disclose the use of printed circuit boards to control the gearmotor. Hunt et al. disclose the use of printed circuit board (44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the printed circuit board of Hunt et al. in the air mattress of the modified Mori in order to convey instructions to the motor to adjust the valve as taught by Hunt et al. (column 6, lines 28 and 29).

16. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Boyen as applied to claim 26 above, and further in view of Hunt et al.

The modified Mori fails to disclose the use of printed circuit boards to control the gearmotor. Hunt et al. disclose the use of printed circuit board (44). It would have been obvious

to one having ordinary skill in the art at the time the invention was made to have used the printed circuit board of Hunt et al. in the air mattress of the modified Mori in order to convey instructions to the motor to adjust the valve as taught by Hunt et al. (column 6, lines 28 and 29).

17. Claims 23, 25, 26, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Johnson (US Patent Number 4,470,429).

Mori et al. disclose an air mattress with a blower (1), a rotor valve assembly (5) comprising an air intake (5b), a first air outlet (5c), a second air outlet (5d), and a circular chamber (see Fig. 3). The rotary valve is rotatable within the chamber and can block the first air outlet, the second air outlet, neither, or both. The gearmotor (E) controls the rotation of the rotor valve. A microprocessor (CPU) controls the gearmotor. Mori et al. fail to disclose a wedge-shaped rotary valve rotatably contained within a circular chamber of a housing that is capable of being positioned not to block the first air outlet and not to block the second air outlet. Johnson discloses a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the wedge-shaped rotary valve of Johnson with the alternating pressure valve system of Mori et al. in order to provide a 3-way valve that can close either (or neither) of the outlet ports and also preclude the closure of the inlet port as taught by Johnson.

18. Claims 23-25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al. in view of Johnson.

Guthrie et al. disclose an alternating pressure valve system for an alternating pressure mattress with pressure sensors and a microprocessor. Guthrie et al. fail to disclose the valve as

being a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. Johnson discloses a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the wedge-shaped rotary valve of Johnson with the alternating pressure valve system of Mori et al. in order to provide a 3-way valve that can close either (or neither) of the outlet ports and also preclude the closure of the inlet port as taught by Johnson.

19. Claims 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Johnson as applied to claim 23 above, and further in view of Kopfstein et al.

The modified Mori fails to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be an obvious variation). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Mori in order to prevent the formation of pressure sores as taught by Kopfstein et al.

20. Claims 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al. in view of Johnson as applied to claim 23 above, and further in view of Kopfstein et al.

The modified Guthrie fail to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be within the scope of the invention). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Guthrie in order to prevent the formation of pressure sores as taught by Kopfstein et al.

21. Claims 33-37, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Johnson, Guthrie et al. and Kopfstein et al.

Mori et al. disclose an air mattress with a blower (1), a rotor valve assembly (5) comprising an air intake (5b), a first air outlet (5c), a second air outlet (5d), and a circular chamber (see Fig. 3). The rotary valve is rotatable within the chamber and can block the first air outlet, the second air outlet, neither, or both. The gearmotor (E) controls the rotation of the rotor valve. A microprocessor (CPU) controls the gearmotor. Mori et al. fail to disclose a wedge-shaped rotary valve rotatably contained within a circular chamber of a housing that is capable of being positioned not to block the first air outlet and not to block the second air outlet. Johnson discloses a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the wedge-shaped rotary valve of Johnson with the alternating pressure valve system of Mori et al. in order to provide a 3-way

valve that can close either (or neither) of the outlet ports and also preclude the closure of the inlet port as taught by Johnson.

The modified Mori fails to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be within the scope of the invention). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Mori in order to prevent the formation of pressure sores as taught by Kopfstein et al.

The modified Mori fails to disclose the pressure sensors. Guthrie et al. disclose pressure sensors in a similar alternating pressure valve system for an alternating pressure mattress. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the pressure sensors of Guthrie et al. with the alternating pressure valve system for an alternating pressure mattress of the modified Mori in order to sense the pressure in the various compartments as taught by Guthrie et al.

22. Claims 27 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Johnson, Guthrie et al. and Kopfstein et al. as applied to claims 26 and 33 above, and further in view of Hunt et al.

The modified Mori fails to disclose the use of printed circuit boards to control the gearmotor. Hunt et al. disclose the use of printed circuit board (44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the printed

circuit board of Hunt et al. in the air mattress of the modified Mori in order to convey instructions to the motor to adjust the valve as taught by Hunt et al. (column 6, lines 28 and 29).

23. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Johnson as applied to claim 26 above, and further in view of Hunt et al.

The modified Mori fails to disclose the use of printed circuit boards to control the gearmotor. Hunt et al. disclose the use of printed circuit board (44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the printed circuit board of Hunt et al. in the air mattress of the modified Mori in order to convey instructions to the motor to adjust the valve as taught by Hunt et al. (column 6, lines 28 and 29).

24. Claims 23, 25, 26, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Soila et al. (US Patent Number 3,342,453).

Mori et al. disclose an air mattress with a blower (1), a rotor valve assembly (5) comprising an air intake (5b), a first air outlet (5c), a second air outlet (5d), and a circular chamber (see Fig. 3). The rotary valve is rotatable within the chamber and can block the first air outlet, the second air outlet, neither, or both. The gearmotor (E) controls the rotation of the rotor valve. A microprocessor (CPU) controls the gearmotor. Mori et al. fail to disclose a wedge-shaped rotary valve rotatably contained within a circular chamber of a housing that is capable of being positioned not to block the first air outlet and not to block the second air outlet. Soila et al. disclose a rotary valve that has a portion that is wedge shaped and that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the wedge-shaped rotary valve of Soila et al. with the alternating pressure valve system of

Mori et al. in order to provide a 3-way valve that can close either (or neither) of the outlet ports and also be retracted from the port prior to rotation as taught by Soila et al.

25. Claims 23-25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al. in view of Soila et al.

Guthrie et al. disclose an alternating pressure valve system for an alternating pressure mattress with pressure sensors and a microprocessor. Guthrie et al. fail to disclose the valve as being a wedge-shaped rotary valve that is capable of being positioned not to block the first air outlet and not to block the second air outlet. . Soila et al. disclose a rotary valve that has a portion that is wedge shaped and that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the wedge-shaped rotary valve of Soila et al. with the alternating pressure valve system of Mori et al. in order to provide a 3-way valve that can close either (or neither) of the outlet ports and also be retracted from the port prior to rotation as taught by Soila et al.

26. Claims 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Soila et al. as applied to claim 23 above, and further in view of Kopfstein et al.

The modified Mori fails to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be an obvious variation). It would have been obvious to one having ordinary skill in the art at the time the

invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Mori in order to prevent the formation of pressure sores as taught by Kopfstein et al.

27. Claims 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al. in view of Soila et al. as applied to claim 23 above, and further in view of Kopfstein et al.

The modified Guthrie fail to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be within the scope of the invention). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Guthrie in order to prevent the formation of pressure sores as taught by Kopfstein et al.

28. Claims 33-37, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Soila et al., Guthrie et al. and Kopfstein et al.

Mori et al. disclose an air mattress with a blower (1), a rotor valve assembly (5) comprising an air intake (5b), a first air outlet (5c), a second air outlet (5d), and a circular chamber (see Fig. 3). The rotary valve is rotatable within the chamber and can block the first air outlet, the second air outlet, neither, or both. The gearmotor (E) controls the rotation of the rotor valve. A microprocessor (CPU) controls the gearmotor. Mori et al. fail to disclose a wedge-shaped rotary valve rotatably contained within a circular chamber of a housing that is capable of

being positioned not to block the first air outlet and not to block the second air outlet. . Soila et al. disclose a rotary valve that has a portion that is wedge shaped and that is capable of being positioned not to block the first air outlet and not to block the second air outlet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the wedge-shaped rotary valve of Soila et al. with the alternating pressure valve system of Mori et al. in order to provide a 3-way valve that can close either (or neither) of the outlet ports and also be retracted from the port prior to rotation as taught by Soila et al.

The modified Mori fails to disclose the use of the variable-speed blower, and fail to disclose the timing limitations. Kopfstein et al. disclose the use of variable-speed blower (110) and the concept of pressurizing the two sets of air sacks alternately over a cycle time (the five-minute cycle time is stated as nominal and a three-minute cycle time would be within the scope of the invention). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the variable-speed blower and cycle times of Kopfstein et al. in the air mattress of the modified Mori in order to prevent the formation of pressure sores as taught by Kopfstein et al.

The modified Mori fails to disclose the pressure sensors. Guthrie et al. disclose pressure sensors in a similar alternating pressure valve system for an alternating pressure mattress. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the pressure sensors of Guthrie et al. with the alternating pressure valve system for an alternating pressure mattress of the modified Mori in order to sense the pressure in the various compartments as taught by Guthrie et al.

29. Claims 27 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Soila et al. and Kopfstein et al. as applied to claims 26 and 33 above, and further in view of Hunt et al.

The modified Mori fails to disclose the use of printed circuit boards to control the gearmotor. Hunt et al. disclose the use of printed circuit board (44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the printed circuit board of Hunt et al. in the air mattress of the modified Mori in order to convey instructions to the motor to adjust the valve as taught by Hunt et al. (column 6, lines 28 and 29).

30. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Soila et al. as applied to claim 26 above, and further in view of Hunt et al.

The modified Mori fails to disclose the use of printed circuit boards to control the gearmotor. Hunt et al. disclose the use of printed circuit board (44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the printed circuit board of Hunt et al. in the air mattress of the modified Mori in order to convey instructions to the motor to adjust the valve as taught by Hunt et al. (column 6, lines 28 and 29).

***Response to Arguments***

31. Applicant's arguments filed August 16, 2004 have been fully considered but they are not persuasive. Applicant argues that the arcuate portion of the rotary valve of Boyen is not wedge shaped. The examiner agrees. However, applicant is directed to the their own Fig. 8-10C that show an arcuate section (120) that covers the outlets. Applicant's arcuate portion is not wedge shaped either. The wedge shape of applicant's rotary valve and Boyen's rotary valve refers to the portion that leads to the point of rotation. Applicant argues that a position where the valve is

partially open to both outlet ports can not be considered not blocking the ports. The examiner disagrees. The claim limitation does not require that both ports be completely open in the third position. Therefore, Boyen meets this limitation. Furthermore, other references clearly disclose a third position with both outlet ports fully open.

***Conclusion***

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Diez, Lehtinen, and Wulf disclose similar rotary valves.

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Keasel whose telephone number is (571) 272-4929. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on (571) 272-4906. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric Keasel 10 JAN 2005
Eric Keasel
Primary Examiner
Art Unit 3754